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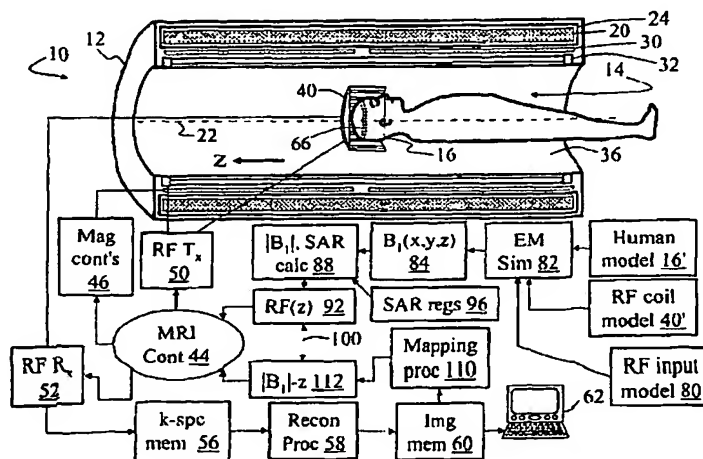
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— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE,

[Continued on next page]

(54) Title: **B1 FIELD CONTROL IN MAGNETIC RESONANCE IMAGING**



(57) Abstract: Multi-slice magnetic resonance imaging of a region of interest of an imaging subject (16) is performed using a radio frequency coil (40) arranged to generate a B<sub>1</sub> magnetic field in the region of interest. One or more processors (44, 82, 88, 110) determine a B<sub>1</sub> field value for each slice that is representative of the B<sub>1</sub> field over a selected area of the slice, accounting for subject effects on the B<sub>1</sub> field, and determine an adjusted per-slice radio frequency excitation for each slice that adjusts the B<sub>1</sub> field value for the slice to a selected value. A magnetic resonance imaging system (10, 44, 46, 50, 52) acquires magnetic resonance imaging data for each slice using the adjusted per-slice radio frequency excitation for that slice. A reconstruction processor (58) reconstructs the acquired magnetic resonance imaging data into a reconstructed image representation.



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